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## TACAN-

(See TACTICAL AIR NAVIGATION.)

**TACAN-ONLY AIRCRAFT-** An aircraft, normally military, possessing TACAN with DME but no VOR navigational system capability. Clearances must specify TACAN or VORTAC fixes and approaches.

**TACTICAL AIR NAVIGATION-** An ultra-high frequency electronic rho-theta air navigation aid which provides suitably equipped aircraft a continuous indication of bearing and distance to the TACAN station.

(See VORTAC.)

(Refer to AIM.)

**TAILWIND-** Any wind more than 90 degrees to the longitudinal axis of the runway. The magnetic direction of the runway shall be used as the basis for determining the longitudinal axis.

## TAKEOFF AREA-

(See LANDING AREA.)

**TAKE-OFF DISTANCE AVAILABLE [ICAO]-** The length of the take-off run available plus the length of the clearway, if provided.

**TAKE-OFF RUN AVAILABLE [ICAO]-** The length of runway declared available and suitable for the ground run of an aeroplane take-off.

**TARGET-** The indication shown on a radar display resulting from a primary radar return or a radar beacon reply.

(See RADAR.)

(See TARGET SYMBOL.)

(See ICAO term TARGET.)

**TARGET [ICAO]-** In radar:

a. Generally, any discrete object which reflects or retransmits energy back to the radar equipment.

b. Specifically, an object of radar search or surveillance.

**TARGET RESOLUTION-** A process to ensure that correlated radar targets do not touch. Target resolution shall be applied as follows:

a. Between the edges of two primary targets or the edges of the ASR-9 primary target symbol.

b. Between the end of the beacon control slash and the edge of a primary target.

c. Between the ends of two beacon control slashes.  
**MANDATORY TRAFFIC ADVISORIES AND SAFETY ALERTS SHALL BE ISSUED WHEN THIS PROCEDURE IS USED.**

Note: This procedure shall not be provided utilizing mosaic radar systems.

**TARGET SYMBOL-** A computer-generated indication shown on a radar display resulting from a primary radar return or a radar beacon reply.

**TAXI-** The movement of an airplane under its own power on the surface of an airport (FAR Part 135.100 [Note]). Also, it describes the surface movement of helicopters equipped with wheels.

(See AIR TAXI.)

(See HOVER TAXI.)

(Refer to AIM.)

(Refer to FAR Part 135.100.)

**TAXI INTO POSITION AND HOLD-** Used by ATC to inform a pilot to taxi onto the departure runway in takeoff position and hold. It is not authorization for takeoff. It is used when takeoff clearance cannot immediately be issued because of traffic or other reasons.

(See CLEARED FOR TAKEOFF.)

**TAXI PATTERNS-** Patterns established to illustrate the desired flow of ground traffic for the different runways or airport areas available for use.

## TCAS-

(See TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM.)

## TCH-

(See THRESHOLD CROSSING HEIGHT.)

## TCLT-

(See TENTATIVE CALCULATED LANDING TIME.)

## TDZE-

(See TOUCHDOWN ZONE ELEVATION.)

**TELEPHONE INFORMATION BRIEFING SERVICE-** A continuous telephone recording of meteorological and/or aeronautical information.

(Refer to AIM.)

**TENTATIVE CALCULATED LANDING TIME-** A projected time calculated for adapted vertex for each arrival aircraft based upon runway configuration, airport acceptance rate, airport arrival delay period, and other metered arrival aircraft. This time is either the

VTA of the aircraft or the TCTL/ACLT of the previous aircraft plus the AAI, whichever is later. This time will be updated in response to an aircraft's progress and its current relationship to other arrivals.

**TERMINAL AREA-** A general term used to describe airspace in which approach control service or airport traffic control service is provided.

**TERMINAL AREA FACILITY-** A facility providing air traffic control service for arriving and departing IFR, VFR, Special VFR, and on occasion en route aircraft.

(See APPROACH CONTROL FACILITY.)

(See TOWER.)

**TERMINAL RADAR SERVICE AREA-** Airspace surrounding designated airports wherein ATC provides radar vectoring, sequencing, and separation on a full-time basis for all IFR and participating VFR aircraft. The AIM contains an explanation of TRSA. TRSA's are depicted on VFR aeronautical charts. Pilot participation is urged but is not mandatory.

**TERMINAL VFR RADAR SERVICE-** A national program instituted to extend the terminal radar services provided instrument flight rules (IFR) aircraft to visual flight rules (VFR) aircraft. The program is divided into four types service referred to as basic radar service, terminal radar service area (TRSA) service, Class B service and Class C service. The type of service provided at a particular location is contained in the Airport/Facility Directory.

**a. Basic Radar Service-** These services are provided for VFR aircraft by all commissioned terminal radar facilities. Basic radar service includes safety alerts, traffic advisories, limited radar vectoring when requested by the pilot, and sequencing at locations where procedures have been established for this purpose and/or when covered by a letter of agreement. The purpose of this service is to adjust the flow of arriving IFR and VFR aircraft into the traffic pattern in a safe and orderly manner and to provide traffic advisories to departing VFR aircraft.

**b. TRSA Service-** This service provides, in addition to basic radar service, sequencing of all IFR and participating VFR aircraft to the primary airport and separation between all participating VFR aircraft. The purpose of this service is to provide separation between all participating VFR aircraft and all IFR aircraft operating within the area defined as a TRSA.

**c. Class C Service-** This service provides, in addition to basic radar service, approved separation between IFR

and VFR aircraft, and sequencing of VFR aircraft, and sequencing of VFR arrivals to the primary airport.

**d. Class B Service-** This service provides, in addition to basic radar service, approved separation of aircraft based on IFR, VFR, and/or weight, and sequencing of VFR arrivals to the primary airport(s).

(See CONTROLLED AIRSPACE.)

(See TERMINAL RADAR SERVICE AREA.)

(Refer to AIM.)

(Refer to AIRPORT/FACILITY DIRECTORY.)

(See TERMINAL RADAR PROGRAM.)

(Refer to AIM.)

(Refer to AIRPORT/FACILITY DIRECTORY.)

**TERMINAL-VERY HIGH FREQUENCY OMNI-DIRECTIONAL RANGE STATION-** A very high frequency terminal omnirange station located on or near an airport and used as an approach aid.

(See NAVIGATIONAL AID.)

(See VOR.)

**TERRAIN FOLLOWING-** The flight of a military aircraft maintaining a constant AGL altitude above the terrain or the highest obstruction. The altitude of the aircraft will constantly change with the varying terrain and/or obstruction.

**TETRAHEDRON-** A device normally located on uncontrolled airports and used as a landing direction indicator. The small end of a tetrahedron points in the direction of landing. At controlled airports, the tetrahedron, if installed, should be disregarded because tower instructions supersede the indicator.

(See SEGMENTED CIRCLE.)

(Refer to AIM.)

**TF-**

(See TERRAIN FOLLOWING.)

**THAT IS CORRECT-** The understanding you have is right.

**360 OVERHEAD-**

(See OVERHEAD APPROACH.)

**THRESHOLD-** The beginning of that portion of the runway usable for landing.

(See AIRPORT LIGHTING.)

(See DISPLACED THRESHOLD.)

**THRESHOLD CROSSING HEIGHT-** The theoretical height above the runway threshold at which the aircraft's glideslope antenna would be if the aircraft maintains the trajectory established by the mean ILS glideslope or MLS glidepath.

(See GLIDESLOPE.)

(See THRESHOLD.)

**THRESHOLD LIGHTS-**

(See AIRPORT LIGHTING.)

**TIBS-**

(See TELEPHONE INFORMATION BRIEFING SERVICE.)

**TIME GROUP-** Four digits representing the hour and minutes from the Coordinated Universal Time (UTC) clock. FAA uses UTC for all operations. The term "ZULU" may be used to denote UTC. The word "local" or the time zone equivalent shall be used to denote local when local time is given during radio and telephone communications. When written, a time zone designator is used to indicate local time; e.g. "0205M" (Mountain). The local time may be based on the 24-hour clock system. The day begins at 0000 and ends at 2359.

**TPMA-**

(See TRAFFIC MANAGEMENT PROGRAM ALERT.)

**TMU-**

(See TRAFFIC MANAGEMENT UNIT.)

**TODA [ICAO]-**

(See ICAO Term TAKE-OFF DISTANCE AVAILABLE.)

**TORA [ICAO]-**

(See ICAO Term TAKE-OFF RUN AVAILABLE.)

**TORCHING-** The burning of fuel at the end of an exhaust pipe or stack of a reciprocating aircraft engine, the result of an excessive richness in the fuel air mixture.

**TOTAL ESTIMATED ELAPSED TIME [ICAO]-** For IFR flights, the estimated time required from take-off to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from takeoff to arrive over the destination aerodrome.

(See ESTIMATED ELAPSED TIME.)

**TOUCH-AND-GO-** An operation by an aircraft that lands and departs on a runway without stopping or exiting the runway.

**TOUCH-AND-GO LANDING-**

(See TOUCH-AND-GO.)

**TOUCHDOWN-**

a. The point at which an aircraft first makes contact with the landing surface.

b. Concerning a precision radar approach (PAR), it is the point where the glide path intercepts the landing surface.

(See ICAO term TOUCHDOWN.)

**TOUCHDOWN [ICAO]-** The point where the nominal glide path intercepts the runway.

Note: Touchdown as defined above is only a datum and is not necessarily the actual point at which the aircraft will touch the runway.

**TOUCHDOWN RVR-**

(See VISIBILITY.)

**TOUCHDOWN ZONE-** The first 3,000 feet of the runway beginning at the threshold. The area is used for determination of Touchdown Zone Elevation in the development of straight-in landing minimums for instrument approaches.

(See ICAO term TOUCHDOWN ZONE.)

**TOUCHDOWN ZONE [ICAO]-** The portion of a runway, beyond the threshold, where it is intended landing aircraft first contact the runway.

**TOUCHDOWN ZONE ELEVATION-** The highest elevation in the first 3,000 feet of the landing surface. TDZE is indicated on the instrument approach procedure chart when straight-in landing minimums are authorized.

(See TOUCHDOWN ZONE.)

**TOUCHDOWN ZONE LIGHTING-**

(See AIRPORT LIGHTING.)

**TOWER-** A terminal facility that uses air/ground communications, visual signaling, and other devices to provide ATC services to aircraft operating in the vicinity of an airport or on the movement area. Authorizes aircraft to land or takeoff at the airport controlled by the tower or to transit the Class D airspace area regardless of flight plan or weather conditions (IFR or VFR). A tower may also provide approach control services (radar or nonradar).

(See AIRPORT TRAFFIC CONTROL SERVICE.)

(See APPROACH CONTROL FACILITY.)

(See APPROACH CONTROL SERVICE.)

(See MOVEMENT AREA.)

(See TOWER EN ROUTE CONTROL SERVICE.)

(Refer to AIM.)

(See ICAO term AERODROME CONTROL TOWER.)

**TOWER EN ROUTE CONTROL SERVICE-** The control of IFR en route traffic within delegated airspace between two or more adjacent approach control facili-

ties. This service is designed to expedite traffic and reduce control and pilot communication requirements.

#### TOWER TO TOWER-

(See TOWER EN ROUTE CONTROL SERVICE.)

**TPX-42-** A numeric beacon decoder equipment/system. It is designed to be added to terminal radar systems for beacon decoding. It provides rapid target identification, reinforcement of the primary radar target, and altitude information from Mode C.

(See AUTOMATED RADAR TERMINAL SYSTEMS.)

(See TRANSPONDER.)

**TRACEABLE PRESSURE STANDARD-** The facility station pressure instrument, with certification/calibration traceable to the National Institute of Standards and Technology. Traceable pressure standards may be mercurial barometers, commissioned ASOS or dual transducer AWOS, or portable pressure standards or DASI.

**TRACK-** The actual flight path of an aircraft over the surface of the earth.

(See COURSE.)

(See ROUTE.)

(See FLIGHT PATH.)

(See ICAO term TRACK.)

**TRACK [ICAO]-** The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (True, Magnetic, or Grid).

#### TRAFFIC-

a. A term used by a controller to transfer radar identification of an aircraft to another controller for the purpose of coordinating separation action. Traffic is normally issued:

1. in response to a handoff or point out,

2. in anticipation of a handoff or point out, or

3. in conjunction with a request for control of an aircraft.

b. A term used by ATC to refer to one or more aircraft.

**TRAFFIC ADVISORIES-** Advisories issued to alert pilots to other known or observed air traffic which may be in such proximity to the position or intended route of flight of their aircraft to warrant their attention. Such advisories may be based on:

a. Visual observation.

b. Observation of radar identified and nonidentified aircraft targets on an ATC radar display, or

c. Verbal reports from pilots or other facilities.

**Note 1:** The word "traffic" followed by additional information, if known, is used to provide such advisories; e.g., "Traffic, 2 o'clock, one zero miles, southbound, eight thousand."

**Note 2:** Traffic advisory service will be provided to the extent possible depending on higher priority duties of the controller or other limitations; e.g., radar limitations, volume of traffic, frequency congestion, or controller workload. Radar/nonradar traffic advisories do not relieve the pilot of his responsibility to see and avoid other aircraft. Pilots are cautioned that there are many times when the controller is not able to give traffic advisories concerning all traffic in the aircraft's proximity; in other words, when a pilot requests or is receiving traffic advisories, he should not assume that all traffic will be issued.

(Refer to AIM.)

**TRAFFIC ALERT (aircraft call sign), TURN (left/right) IMMEDIATELY, (climb/descend) AND MAINTAIN (altitude).**

(See SAFETY ALERT.)

**TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM-** An airborne collision avoidance system based on radar beacon signals which operates independent of ground-based equipment. TCAS-I generates traffic advisories only. TCAS-II generates traffic advisories, and resolution (collision avoidance) advisories in the vertical plane.

#### TRAFFIC INFORMATION-

(See TRAFFIC ADVISORIES.)

**TRAFFIC IN SIGHT-** Used by pilots to inform a controller that previously issued traffic is in sight.

(See NEGATIVE CONTACT.)

(See TRAFFIC ADVISORIES.)

**TRAFFIC MANAGEMENT PROGRAM ALERT-** A term used in a Notice to Airmen (NOTAM) issued in conjunction with a special traffic management program to alert pilots to the existence of the program and to refer them to either the Notices to Airmen publication or a special traffic management program advisory message for program details. The contraction TMPA is used in NOTAM text.

**TRAFFIC MANAGEMENT UNIT-** The entity in ARTCC's and designated terminals responsible for direct involvement in the active management of facility

traffic. Usually under the direct supervision of an assistant manager for traffic management.

**TRAFFIC NO FACTOR-** Indicates that the traffic described in a previously issued traffic advisory is no factor.

**TRAFFIC NO LONGER OBSERVED-** Indicates that the traffic described in a previously issued traffic advisory is no longer depicted on radar, but may still be a factor.

**TRAFFIC PATTERN-** The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport. The components of a typical traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach.

a. Upwind Leg- A flight path parallel to the landing runway in the direction of landing.

b. Crosswind Leg- A flight path at right angles to the landing runway off its upwind end.

c. Downwind Leg- A flight path parallel to the landing runway in the direction opposite to landing. The downwind leg normally extends between the crosswind leg and the base leg.

d. Base Leg- A flight path at right angles to the landing runway off its approach end. The base leg normally extends from the downwind leg to the intersection of the extended runway centerline.

e. Final Approach. A flight path in the direction of landing along the extended runway centerline. The final approach normally extends from the base leg to the runway. An aircraft making a straight-in approach VFR is also considered to be on final approach.

(See STRAIGHT-IN APPROACH VFR.)

(See TAXI PATTERNS.)

(Refer to AIM.)

(Refer to FAR Part 91.)

(See ICAO term AERODROME TRAFFIC CIRCUIT.)

**TRAFFIC SITUATION DISPLAY (TSD)-** TSD is a computer system that receives radar track data from all 20 CONUS ARTCC's, organizes this data into a mosaic display, and presents it on a computer screen. The display allows the traffic management coordinator multiple methods of selection and highlighting of individual aircraft or groups of aircraft. The user has the option of superimposing these aircraft positions over any number of background displays. These background options include ARTCC boundaries, any stratum of en

route sector boundaries, fixes, airways, military and other special use airspace, airports, and geopolitical boundaries. By using the TSD, a coordinator can monitor any number of traffic situations or the entire systemwide traffic flows.

**TRAJECTORY-** A URET CCLD representation of the path an aircraft is predicted to fly based upon a Current Plan or Trial Plan.

(See USER REQUEST EVALUATION TOOL CORE CAPABILITY LIMITED DEPLOYMENT )

**TRAJECTORY MODELING-** The automated process of calculating a trajectory.

**TRANSCRIBED WEATHER BROADCAST-** A continuous recording of meteorological and aeronautical information that is broadcast on L/MF and VOR facilities for pilots.

(Refer to AIM.)

**TRANSFER OF CONTROL-** That action whereby the responsibility for the separation of an aircraft is transferred from one controller to another.

(See ICAO term TRANSFER OF CONTROL.)

**TRANSFER OF CONTROL [ICAO]-** Transfer of responsibility for providing air traffic control service.

**TRANSFERRING CONTROLLER-** A controller/facility transferring control of an aircraft to another controller/facility.

(See ICAO term TRANSFERRING UNIT/CONTROLLER.)

**TRANSFERRING FACILITY-**

(See TRANSFERRING CONTROLLER.)

**TRANSFERRING UNIT/CONTROLLER [ICAO]-** Air traffic control unit/air traffic controller in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit/air traffic controller along the route of flight.

Note: See definition of accepting unit/controller.

**TRANSITION-**

a. The general term that describes the change from one phase of flight or flight condition to another; e.g., transition from en route flight to the approach or transition from instrument flight to visual flight.

b. A published procedure (DP Transition) used to connect the basic DP to one of several en route airways/jet routes, or a published procedure (STAR Transition) used to connect one of several en route airways/jet routes to the basic STAR.

(Refer to DP/STAR Charts.)

**TRANSITIONAL AIRSPACE-** That portion of controlled airspace wherein aircraft change from one phase of flight or flight condition to another.

**TRANSITION POINT-** A point at an adapted number of miles from the vertex at which an arrival aircraft would normally commence descent from its en route altitude. This is the first fix adapted on the arrival speed segments.

**TRANSMISSOMETER-** An apparatus used to determine visibility by measuring the transmission of light through the atmosphere. It is the measurement source for determining runway visual range (RVR) and runway visibility value (RVV).

(See VISIBILITY.)

**TRANSMITTING IN THE BLIND-** A transmission from one station to other stations in circumstances where two-way communication cannot be established, but where it is believed that the called stations may be able to receive the transmission.

**TRANSPONDER-** The airborne radar beacon receiver/transmitter portion of the Air Traffic Control Radar Beacon System (ATCRBS) which automatically receives radio signals from interrogators on the ground, and selectively replies with a specific reply pulse or pulse group only to those interrogations being received on the mode to which it is set to respond.

(See INTERROGATOR.)

(Refer to AIM.)

(See ICAO term TRANSPONDER.)

**TRANSPONDER [ICAO]-** A receiver/transmitter which will generate a reply signal upon proper interrogation; the interrogation and reply being on different frequencies.

**TRANSPONDER CODES-**

(See CODES.)

**TRIAL PLAN-** A proposed amendment which utilizes automation to analyze and display potential conflicts along the predicted trajectory of the selected aircraft.

**TRSA-**

(See TERMINAL RADAR SERVICE AREA.)

**TSD-**

(See TRAFFIC SITUATION DISPLAY.)

**TURBOJET AIRCRAFT-** An aircraft having a jet engine in which the energy of the jet operates a turbine which in turn operates the air compressor.

**TURBOPROP AIRCRAFT-** An aircraft having a jet engine in which the energy of the jet operates a turbine which drives the propeller.

**TURN ANTICIPATION-** (maneuver anticipation).

**TVOR-**

(See TERMINAL-VERY HIGH FREQUENCY OMNIDIRECTIONAL RANGE STATION.)

**TWEB-**

(See TRANSCRIBED WEATHER BROADCAST.)

**TWO-WAY RADIO COMMUNICATIONS FAILURE-**

(See LOST COMMUNICATIONS.)